



Simeon Tran

🏠 simeonat.github.io | 📧 SimeonAT | 🌐 [simeon-tran](https://simeon-tran.com)

Education

University of California, Santa Cruz

M.S. IN COMPUTER SCIENCE AND ENGINEERING

B.S. IN COMPUTER SCIENCE AND ENGINEERING

Santa Cruz, California

Sept. 2023 - Dec. 2025

Jul. 2019 - Jun. 2023

Master's Thesis

Comparative Study of Encryption Algorithms in Battery Powered Thread® Networks for Smart Homes

Jan. 2024 - Dec. 2025

[HTTPS://SIMEONAT.GITHUB.IO/RESEARCH/THESIS](https://simeonat.github.io/research/thesis)

- Removed encryption algorithm used in OpenThread (AES) and replaced it with the ASCON encryption algorithms
- Forked ESP-IDF source code to allow 802.15.4 compatible ESP32 devices to run my OpenThread ASCON fork
- Showed that network performance and battery lifetime *not* significantly impacted

Experience

Sphinox Inc.

Jun. 2022 - PRESENT

FULL STACK WEB DEVELOPER & NETWORK ADMINISTRATOR

- Developer and maintainer for Next.js CRM web application to manage barber shop rewards program containing thousands of customer data
- Responsible for securing network infrastructure by setting up VLANs and Tailscale ACLs, and managing backups on company servers
- Responsible for hosting services on company servers, including internal password manager and deployment of barber shop CRM

Tech4Good Lab

Jun. 2023 - Dec. 2023

LEAD RESEARCH ASSISTANT

Santa Cruz, California

- Oversaw the development of an Express.js and OpenAPI server that used ChatGPT to create personalized learning curricula
- Helped team members write unit tests to check the functionality of the prototype back-end server
- Conducted in-house research studies on explore how ChatGPT can be used to automate the creation of personalized learning pathways
- Developed the initial UI/UX flowchart for a web application used to design personalized learning experiences

Tech4Good Lab

Apr. 2023 - Jun. 2023

WEB DEVELOPER TEAM LEAD

Santa Cruz, California

- Used Ionic and Capacitor to create infrastructure to allow all existing Angular projects to run as iOS and Android apps
- Implemented Google OAuth login on iOS and Android using the Codetrix Capacitor Plugin
- Wrote detailed documentation and onboarding instructions for new members to get them acquainted with Ionic

Skills

Embedded Systems	ESP-IDF, OpenThread
CI/CD	Docker, GitHub Actions
Web Frameworks	Node.js, Deno, Next.js, Astro
Databases	PostgreSQL, Firebase
Back-end	OpenAPI, GraphQL, Express.js
Front-end	React, Angular
Programming	C/C++, Python, Typescript/Javascript, Haskell
Soft Skills	Teamwork, Leadership, Tutoring, Mentoring
Languages	English, Vietnamese

Projects

Daily Time Manager Web Application

Sept. 2022 - Dec. 2022

[HTTPS://GITHUB.COM/SIMEONAT/BAGEL.IO/TREE/MAIN](https://github.com/SIMEONAT/BAGEL.IO/TREE/MAIN)

- Worked with four fellow software engineering classmates to create a web app that generates visualizations based on completed tasks on a user's to-do list
- Designed the UI for the task cards and to-do list
- Developed both the React front-end and Node.js back-end implementations for the login and register pages

Fractal Terrain Generation Program for Python Course

Apr. 2020

[HTTPS://USERS.SOE.UCSC.EDU/~PANG/30/S20/PROG1/TERRAIN_SIMEON.TXT](https://users.soe.ucsc.edu/~pang/30/s20/PROG1/TERRAIN_SIMEON.TXT)

- Used Python Turtle Module and starter code provided by the class TA to create program that recursively generates random terrain
- Developed extra features beyond what was asked, which encouraged graders and course faculty to label this program as a “star solution” on course website (<https://users.soe.ucsc.edu/~pang/30/s20/>)

Video Game Demo using Python and PyGame

Dec. 2020 - Dec. 2021

[HTTPS://GITHUB.COM/SIMEONAT/SPACEVIEWERPYGAME](https://github.com/SIMEONAT/SPACEVIEWERPYGAME)

- Created single-player game demo where players interact with objects in outer space
- Implemented RPG-style text dialogue using object-oriented programming
- Applied knowledge of data structures by creating a binary tree to store RPG text-box objects
- Integrated pixel art sprites with Python code to create lively animations

Teaching

Baskin Engineering at UCSC

Jun. 2024 - Jul. 2024

FULL STACK WEB DEVELOPMENT TEACHING ASSISTANT

Remote

- Held daily office hours where I helped students with debugging
- Taught students web development using React, Express, and PostgreSQL
- Helped students develop the habit of Test Driven Development (TDD)

UC Santa Cruz Learning Support Services

Sep. 2020 - Jun. 2021

PYTHON COURSE TUTOR

Remote

- Held weekly remote tutoring sessions with diverse students for Introduction to Python course
- Assisted students on various Python concepts and basic object-oriented programming, assisting them in performing well on their assignments and exams
- Demonstrated knowledge of Python by creating programming examples and activities

UC Santa Cruz Academic Excellence Program

Oct. 2021 - Dec. 2021

PRECALCULUS TUTOR

Remote

- Was a tutor/mentor for Professor Morales-Almazan's Precalculus class, under the recommendation of the professor himself
- Helped students with Precalculus topics that they struggled with, allowing them to be better prepared for the homework and exams
- Gave freshman students from different backgrounds advice on how to navigate the university, in addition to assisting them with math